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PHOTOGRAPHIC INTERPRETATION REPORT

KAPUSTIN YAR/VLADIMIROVKA
MISSILE TEST CENTER, USSR
CHANGES SINCE

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Declassification review by NIMA/DOD

NPIC/R-8/61

October 1961

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

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PREFACE

This report, prepared at the National Photographic Interpretation Center in response to CIA requirement OSI/R-76/61, reports on the [REDACTED] photographic coverage of the Kapustin Yar/Vladimirovka Missile Test Center, and confines itself primarily to new developments within the center. [REDACTED] photography of [REDACTED] [REDACTED] was used to update information derived from [REDACTED] photography of [REDACTED]. Publications dealing with the [REDACTED] coverage are listed in the References at the end of this report.

Although the [REDACTED] photography covers the entire Kapustin Yar Rangehead, clouds cover up to 95 percent of the rangehead. Some areas are cloud covered on all missions. The small scale and lack of image definition inherent in the photography limit detailed analysis. Accordingly, most of the mensural data included are only approximate. The term "miles" used throughout this report means nautical miles, and all directions are referenced from true north.

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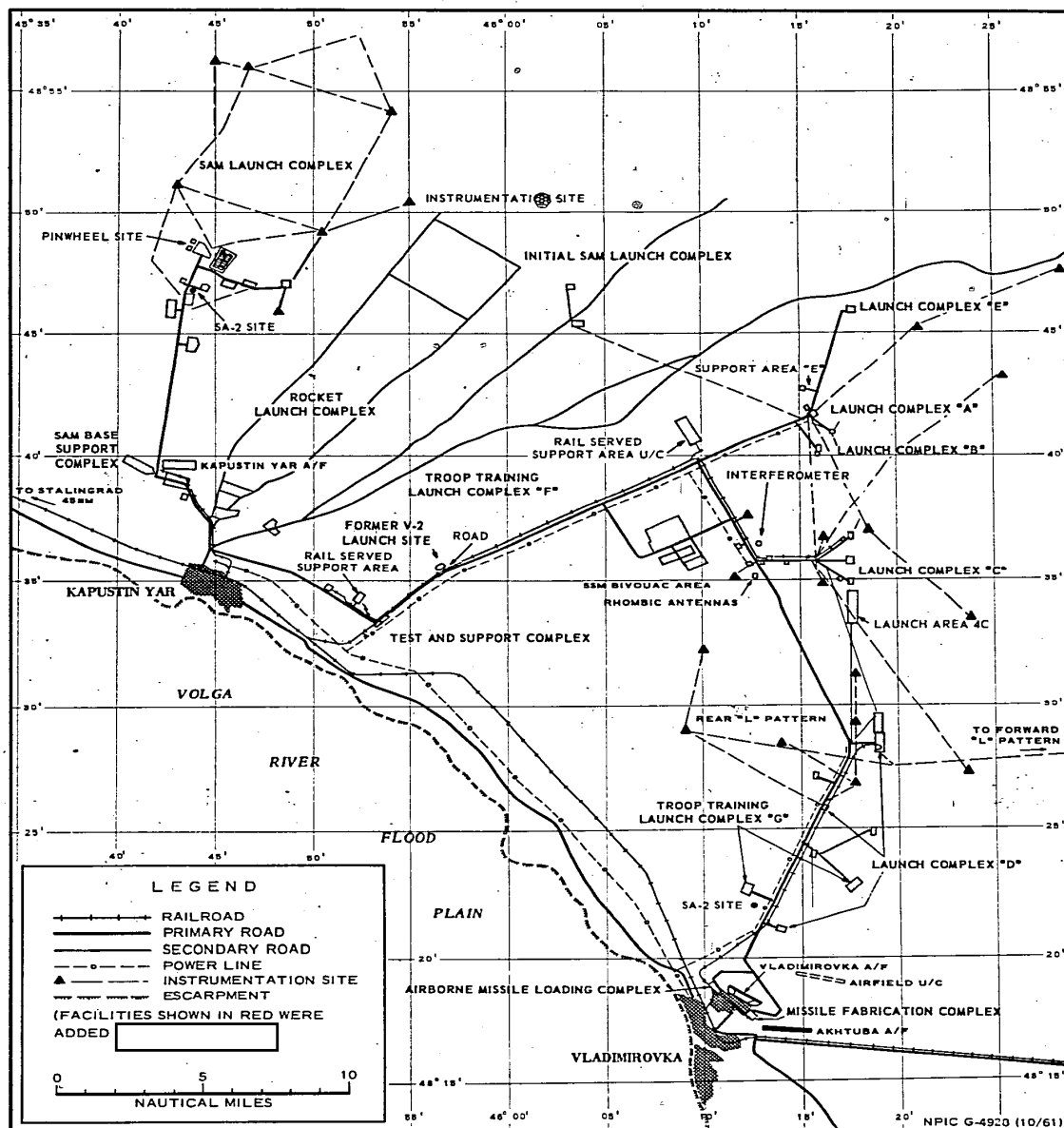
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INTRODUCTION

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The [REDACTED] photography of the Kapustin Yar/Vladimirovka Missile Test Center (48-34N 45-53E) shows continuing expansion of the center since the [REDACTED] coverage (Figure 1): The major expansion observed is at Launch Complex "C," where a new launch area is under construction. Another significant addition is a rail- and road-served support area under construction along the road from Kapustin Yar to Launch Complex "A." A surface-to-air missile (SAM) launch site, new since [REDACTED] is under development, and two operational SA-2 SAM sites have been added to this range since [REDACTED]. These areas are discussed first in this report and the other areas with fewer changes follow.

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Although some changes were noted on [REDACTED] coverage, it is used mainly as a time base reference to report on construction progress.

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LAUNCH COMPLEX "C"

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The [REDACTED] missions provided partial coverage of this complex. The complex was completely cloud covered on the [REDACTED] photography.

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The most significant item identified, in [REDACTED] was a new launch area under construction (designated Launch Area 4C).

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The rail line under construction in [REDACTED] from Checkout and Assembly Area 2C was being extended to Launch Area 1C in [REDACTED]

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Poor weather on the [REDACTED] missions makes a comparison of individual facilities impossible. Therefore, in most cases comparisons are made with the status as of the [REDACTED] photography, on which all facilities in the complex were cloud free.

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The accompanying table shows the weather conditions of the comparative coverages on [] photography at the individual facilities in the complex. Clouds and cloud shadow prohibit detailed analysis of many of these facilities.

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Table 1. Comparative Coverage of Launch Complex C.

Facility		Remarks
Launch Areas		
1C		Rail line u/c to Launch Area 1C
2C		No report
3C		No change since []
4C		New Launch Area u/c
Support Facilities		
Assembly Area 1C		No change since []
Assembly & Checkout 2C		Rail line u/c to Launch Area 1C
Assembly Area 3C		No change since []
Checkout Area 1C		No change since []
Checkout Area 3C		No change since []
Admin' & Housing Area		No change since []
Unidentified Area		Minor buildup since []
Electronics Facilities		
Site C1		No change since []
Site C2		No change since []
Site C3		No report
Site C4		No change since []
Site C5		No change since []
Rhombics		New communications control center
Interferometer Site		New interferometer
Bivouac Area		Approximately 30% increase in area since []

*Weather abbreviations: cc-cloud covered, sc-scattered clouds, cs-cloud shadow, cl-clear.

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Launch Areas

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25X1D [REDACTED] Although there has been no change in Launch Area 1C since [REDACTED] 25X1D
[REDACTED] the rail line under construction in [REDACTED] was being ex- 25X1B
tended to this launch area. Launch area 1C may serve as a point at which
rail-mobile launch systems will be developed. This system may utilize
developed missiles and only the handling and ground support equipment
may be undergoing research and development. [REDACTED]

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[REDACTED] 25X1D

Launch Area 2C has not been observed since [REDACTED] There 25X1D
is no apparent change in Launch Area 3C since [REDACTED] 25X1D

A new launch area (4C) in an early stage of construction was identi- 25X1D
fied at Launch Complex "C" (Figure 2) on the [REDACTED] photography.
Partial cloud cover and cloud shadow preclude a detailed analysis. The
area is 2,100 feet south of Launch Area 3C and in line with the four exist-
ing launch pads at Complex "C." The area is served by an improved road
which branches south from the service road for Launch Area 3C. The
point of intersection is obscured by clouds but when the road is projected
it intersects northwest of Checkout Area 3C. The south terminus of the
road is also obscured by clouds. A road approximately 1,200 feet long
branches off to the east to serve the launch area. Another new road, just
to the west, leads south toward Vladimirovka.

Because of ground scarring, only one fence can definitely be identi-
fied. Two scars perpendicular to this fence line, one to the north and one
to the south, probably indicate the other fence lines. Combined, these
scars enclose an area of approximately 3,800 by 1,000 feet.

This new launch area resembles Launch Area 2C. It appears to be
rectangular in shape, but is more than twice the length and about the same
width as 2C (2C measures 1,700 by 1,200 feet). About 750 feet from the
north fence line is a possible pad under construction. Its ultimate size

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and configuration cannot be determined at present. Two pairs of parallel objects west of the pad and oriented at right angles to the fence line could be counterparts of the vehicle stalls abutting the pads at Launch Area 2C.

If another pad were located 750 feet in from the south fence (this point is obscured by cloud and cloud shadow), the distance between pads would be 2,300 feet. This is an unusually great distance to separate pads as evidenced by techniques employed at the Kapustin Yar Missile Test Center in the past few years. If two other pads were evenly spaced in the 2,300-foot expanse, the four pads would be separated by about 800 feet on center. The pads at 2C are separated by a distance of 850 feet on center.

There are 14 buildings, ranging from 60 to 100 feet located west of the access road approximately 3,000 feet north of the service road to the launch area. No other buildings can be identified in the immediate area.

Another area of activity is located farther south. The access road passing Launch Area 4C terminates under the cloud. The only recognizable feature other than an extensive amount of ground scarring is a probable road, oriented approximately north-south and in alignment with the existing launch pads of this complex.

A straight ground scar, probably a covered ditch, leads south from the gate of the launch area. It appears to connect near the power line along the road behind Launch Complex "D." A diamond-shaped ground scar is located about 500 feet north of the launch area.

No instrumentation ground patterns were identified.

Support Facilities

25X1D The only significant addition to the support facilities at Launch Complex "C" since [REDACTED] is the extension of the rail line from Assembly and Checkout Area 2C (Figure 1). In [REDACTED] the line appeared to terminate at the Complex Control Center. It has since been extended to Launch Area 1C where it terminates.

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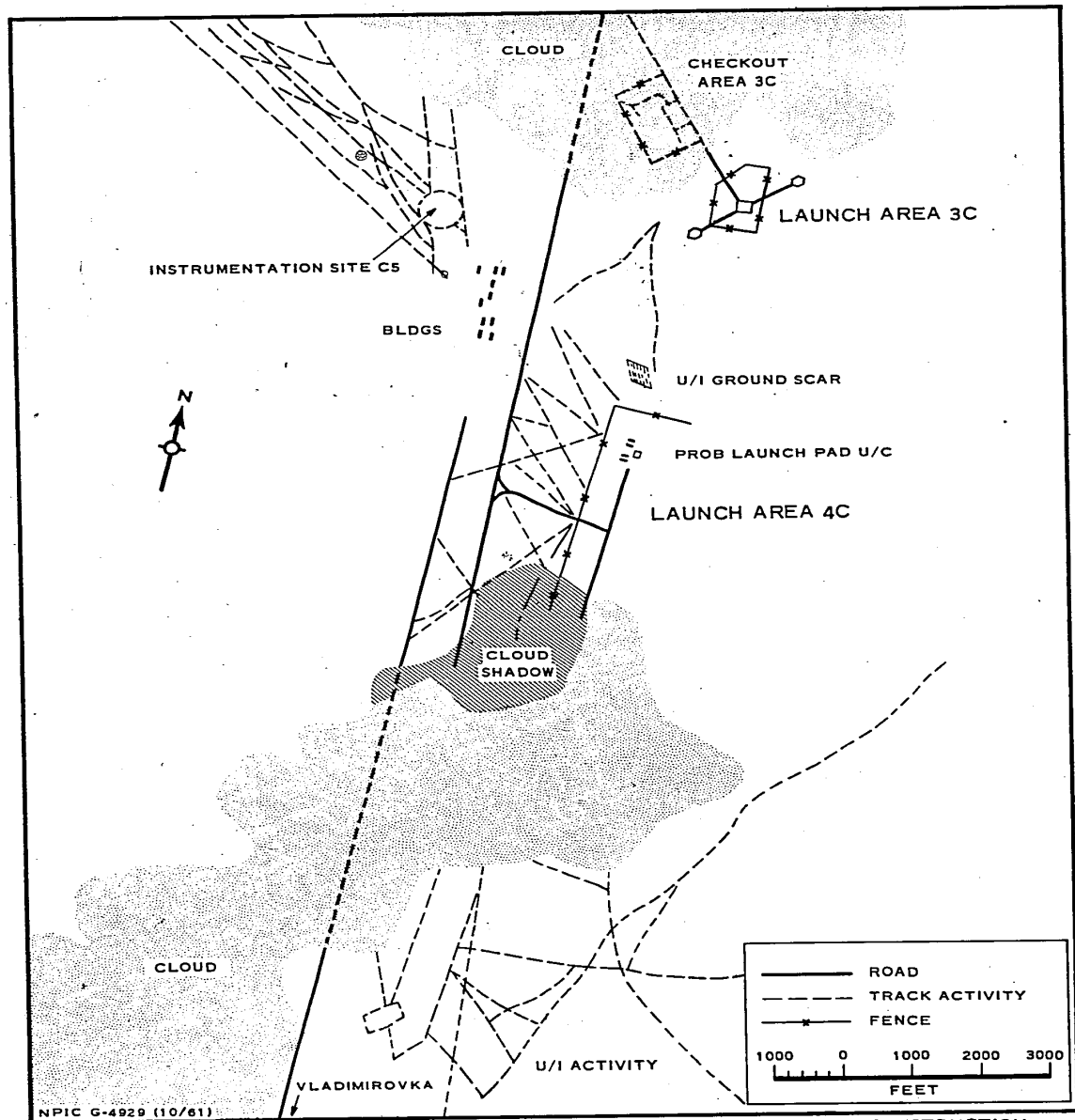


FIGURE 2. LAUNCH COMPLEX "C" SHOWING NEW LAUNCH AREA (4C) UNDER CONSTRUCTION.

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An area of building activity (Figure 1) located approximately 4,000 feet north/northwest of the Administration and Housing Area now appears to be complete. [REDACTED] photography indicates that only four buildings have been added since [REDACTED]. This makes a total of 17 buildings in the area.

No changes were observed at the other support facilities. Table 1 provides a comparative analysis of the individual support facilities.

Electronics Facilities

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None of the instrumentation sites visible on [REDACTED] photography appear to have changed since [REDACTED] photography of [REDACTED]. Due to the small images of these sites, however, it is probable that only major expansion could be seen on this later photography.

A new, probable communications control center has been constructed immediately south of the rhombic antenna field identified in [REDACTED]. This facility appears to be fenced and measures about 1,000 by 200 feet. Only one building can be identified within the fenced area.

An interferometer site (Figure 1), believed to be under construction in [REDACTED] can now be confirmed. This site, together with the fenced facilities immediately to the north, has been designated the Range Instrumentation Site. It is discussed here because of its proximity to Launch Complex "C," although it probably serves all the launch complexes. It is east of the main access road and the branch spur rail line, and approximately 8,000 feet north of the Administration and Housing Area. In [REDACTED] it contained not only the interferometer site in the early stage of construction but also two fenced areas. Combined, these areas contained approximately 10 buildings, including a 20-foot domed silo with [REDACTED] building, 5 vans, and several miscellaneous items such as buried tanks and various types of vehicles. Since this portion of the site is obscured by clouds and haze, no expansion since [REDACTED] can be determined.

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Bivouac Area

25X1D In [REDACTED] the bivouac area (Figure 1) was divided into seven distinct areas which were each set off by a plowed strip. These strips were neither uniform in configuration nor equal in size. At that time a total of approximately 800 square tent bases could be identified. No permanent facilities such as buildings or structures were identified.

Some increase to the overall area and an extensive amount of track activity have occurred since then. At least eight buildings, approximately 60 feet long, have been constructed adjacent to and east of the bivouac area. Since the individual tent sites cannot be identified on photography of this scale, the only indicator to buildup in the area would be the ground scarring, which indicates an approximate 30 percent increase in area. There is an almost unlimited area for expansion.

NEW SUPPORT AREA UNDER CONSTRUCTION

25X1D In [REDACTED] a new construction project was observed on the north side of the road that runs from Kapustin Yar through to Launch Complex "E" at the junction of the road from Vladimirovka. The project appeared to be in the very early stages at the time of photography and nothing could be said about it.

25X1D In [REDACTED] however, the construction project was well underway and a definite pattern had developed (Figure 3). The rectangular area measures approximately 2,500 by 1,100 feet. A spur from the rail line that terminates at Launch Complex "C" branches at the road junction and serves the new installation. The terminus cannot be seen due to cloud shadow. A paved road also enters the installation from the intersection.

The installation is in the process of being double-fenced and at least nine buildings can be identified within the fenced area. Two buildings which appear to be the most important are offset to the west of the paved

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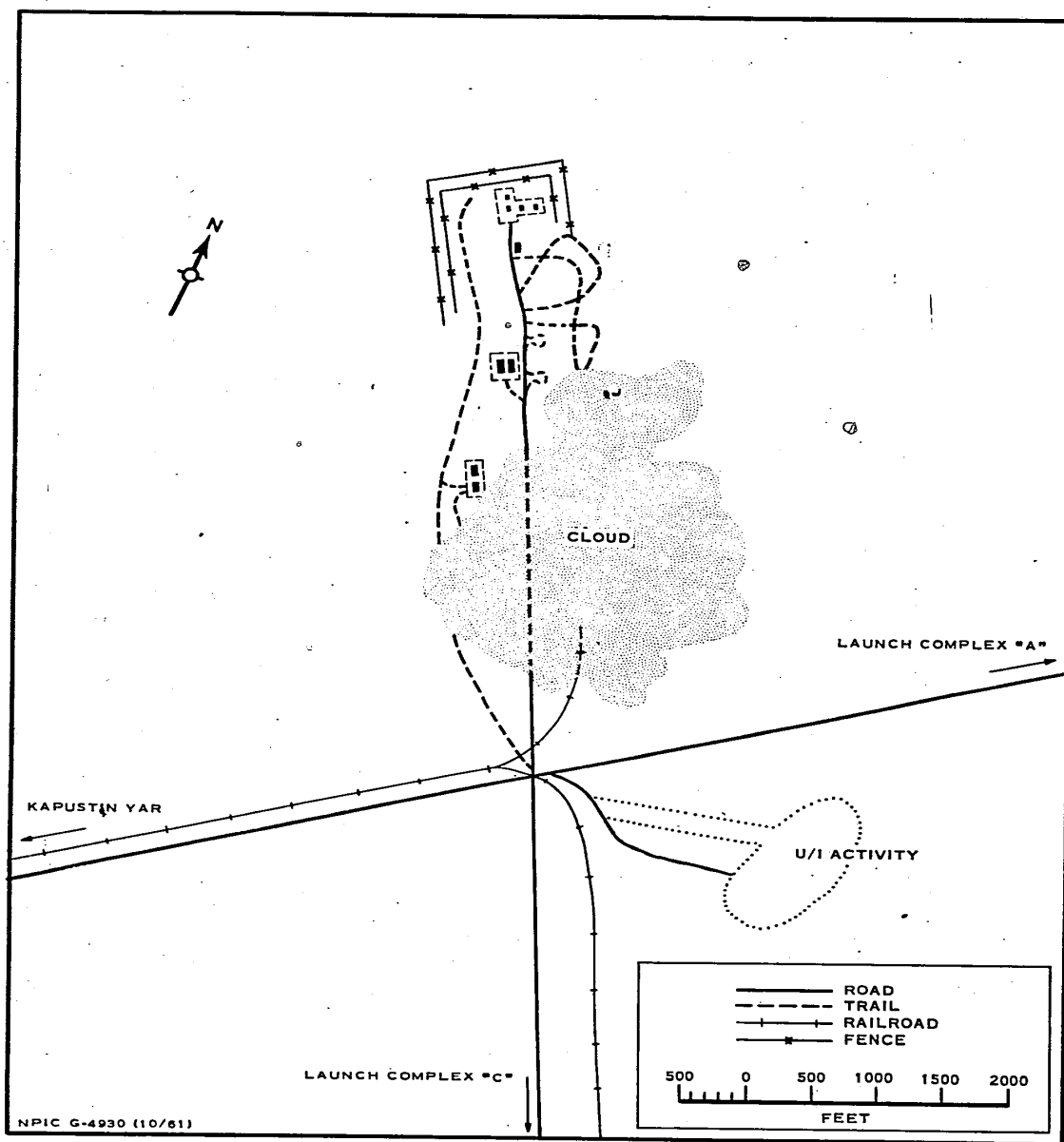


FIGURE 3. NEW SUPPORT AREA UNDER CONSTRUCTION.

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road. They may be on concrete hardstands and appear to be drive-through type. No specific function can be assigned to any of the buildings or to the installation itself.

25X1D The installation was completely cloud covered on the [] photography.

SAM FACILITIES.

25X1D In [] the entire Surface-to-Air Missile facilities (Figure 1) were covered with only 5 percent cloud cover. There has been little change since PIC/JR-14/60.* A new building and area of construction activity were noted in the northwest and southwest corners respectively of the Research and Development Launch Area. Instrumentation Control Site No 8 was improved with a firebreak and a fence added. No other changes were noted.

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25X1D The area was partially covered by cloud-free photography in [] [] Only the actual launch areas were covered. A new instrumentation site was constructed 5.5 nm northeast of the SA-3 launch area and connected by road and/or cable to Instrumentation Site No 4 on the SAM Test Range. No other changes were noted.

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25X1D Ninety-five percent of the SAM facilities were covered by 90 percent cloud-free photography of [] A new SAM launch site had been constructed adjacent to the northwest fence of the Research and Development Launch Area. It appeared to be a six-launcher pinwheel-type site, but, although this site was barely visible in [] not enough could be seen to identify it as such. Other unidentified activity was in progress just north of and adjacent to the northwest fence line. An operational SA-2 site had been constructed between the Yo-Yo guidance site and the support area between [] No other activity was noted within the SAM area.

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* See references.

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OTHER AREAS

Portions of the rangehead which showed less significant or no changes are grouped in this section. Those areas that showed some change are discussed separately; the others are merely mentioned. The changes discussed are illustrated in Figure 1.

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25X1D Launch Complex "B" was completely cloud covered on the [REDACTED] [REDACTED] photography. On the [REDACTED] mission, over 60 percent cloud cover, together with haze and cloud shadow, make interpretation impossible.

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The small scale of the [REDACTED] photography makes it impossible even to identify individual sites at Troop Training Launch Complex "F".

25X1D No changes were seen at the Initial SAM Launch Complex on [REDACTED] [REDACTED] photography and the complex was cloud covered [REDACTED]
25X1D [REDACTED] The same is true of the Airborne Missile Loading Facility.

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The major portion of the Kapustin Yar Base Support Complex was covered by cloud-free photography of [REDACTED] but no changes could be identified. The support complex was not covered [REDACTED] photography. No changes could be seen at the complex in [REDACTED] n it was covered by partially hazy photography.

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Launch Complex "A"

25X1D On the [REDACTED] photography, clouds and cloud shadow obscured 50 percent of this complex. The launch areas were not discernible, and the support area was 40 percent cloud covered. Two of the four tracking stations of the modified "V" configuration were visible. There were no apparent changes since [REDACTED]

25X1D Clouds and cloud shadow on the [REDACTED] coverage also obscured 50 percent of the complex. Both launch points were cloud covered, and approximately 30 percent of the support area was cloud covered. Only

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one of the four tracking sites of the modified "V" configuration was visible. There were no observable changes.

The complex was entirely cloud covered on the [] photography. 25X1D

Launch Complex "D"

25X1D On the [] photography, Launch Complex "D" was 85 percent cloud covered; all four launch points were completely cloud covered. The Range Control Center and Support Area were .70 percent cloud covered, with the Radar Facility, Rear "L" Pattern, Linear Pattern, and Assembly and Checkout Area visible, but no apparent change in any of the areas.

25X1D In [] Launch Complex "D" was 25 percent cloud covered, with the remaining 75 percent in cloud haze. Three of the four launch points were visible through the haze and there appeared to be no change.

The Linear Pattern, Range Control Center, and Logistical and Administrative Support Area were visible through haze, with no apparent change. The Assembly and Checkout Area was cloud free, with no change. The radar facility was cloud covered.

25X1D On [] photography, Launch Complex "D" was entirely cloud covered except for the launch areas, which were barely visible through heavy haze. There appeared to be no change.

Launch Complex "E"

25X1D On [] Launch Complex "E" was cloud free, with no change since the last report (PIC/JR-21/60).*

25X1D In [] Launch Complex "E" was cloud covered. However, a new housing and support area had been identified on the west side of the main road from Launch Complex "A" to Launch Complex "E." It is located at the terminus of a branch road, approximately one nm from the

* See references.

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Launch Complex "A" housing and support area. Although small scale and cloud shadow inhibit detail, it appears that this support and housing area for Complex "E" has approximately the same size and configuration as the one for Complex "A."

Launch Complex "E" was 100 percent cloud covered on [REDACTED] photography.

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Launch Complex "G" ®

Launch Complex "G" has undergone relatively few changes since [REDACTED]. The most significant item revealed in [REDACTED] was the completion of the launch pads at Launch Area 1G. The most significant item noted in [REDACTED] was the inclusion of an SA-2 SAM site adjacent to the Motor Pool and Equipment Park. The complex was completely cloud covered on the [REDACTED] photography.

No comparison can be made between the [REDACTED] coverages, since each of the facilities of the complex was cloud covered on one or the other of these missions. Hence, all comparisons are made with [REDACTED] photography.

A detailed analysis of the complex may be found in CIA/PIC/JR-1006/61. *

Launch Areas

Both launch areas were completely cloud covered on [REDACTED] photography. [REDACTED] photography, however, revealed that the two launch pads at Launch Area 1G were probably complete. This mission confirmed the predicted pad configuration illustrated in PIC/JR-1006/61. The short section of road under construction leading east from the Housing Area does extend to Launch Area 1G as speculated in the same report.

* See references.

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The small scale of the [] photography precludes interpretation of details at Launch Area 2G. Individual sites are not evident.

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Support Facilities

The Support Facilities consist of the Missile Storage and Handling Areas, the Motor Pool and Equipment Park, the Transloading Area, and the Housing Area. There has been no apparent change in these facilities since []

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Rocket Launch Complex

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The major portion of the Rocket Launch Complex was cloud free in [] and shows expansion since [] A new area, located 0.5 nm northeast of the old positions, contains at least four buildings, but small scale precludes any definite interpretation.

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Only a portion of the Rocket Launch Complex had cloud-free coverage in [] The new portion was not covered and no new areas were identified. The complex was partially cloud covered in [] No changes since [] were noticed. Small scale precludes further details.

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Former V-2 Launch Site

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The former V-2 Launch Area was 5 percent cloud covered in [] [] A graded road was observed leading from the main service road that runs from Kapustin Yar to Launch Complex "A." The road appeared to serve an existing tracking site that was associated with V-2 launchings. Small scale precludes interpretation.

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The complex was cloud free in [] and the new road appeared to be paved. Some new activity appeared to be taking place at the terminus of

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this road, at the old V-2 tracking site; however, small scale precludes interpretation.

The complex was completely cloud covered on [REDACTED] photography.

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Test and Support Complex

The Test and Support Complex was cloud free on [REDACTED] photography and a new rail-and road-served support area was built on the north side and adjacent to the rail line from Kapustin Yar to the Test and Support Complex (Figure 1). The area is enclosed by a fence, which measures 1,200 by 700 feet. Before the rail line enters the area it bisects and appears to serve two units within the fenced area. Construction activity extends on both sides of this new area. The small scale precludes interpretation of this new area. The remainder of the complex appears to be the same as viewed on [REDACTED] photography of [REDACTED]

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[REDACTED] photography of the complex was clear, but no new activity was noted. The complex was cloud covered in [REDACTED]

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Missile Fabrication Complex

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The entire area was covered by cloud-free photography in [REDACTED]. The second large fabrication building, which was under construction in [REDACTED] appeared to be completed. This new building is similar to the earlier building with sawtooth roof construction and measures approximately 500 by 220 feet. No other changes were noted.

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No apparent changes were observed on hazy photography of [REDACTED]. The complex was completely cloud covered in [REDACTED]

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Vladimirovka Base Support Complex

25X1D The Vladimirovka Base Support Complex was covered by cloud-free photography in [] Changes were limited to a few new buildings in the housing area.

25X1D The entire complex was covered by practically cloud-free photography of [] New construction was underway north of the road from Vladimirovka airfield to the old village of Vladimirovka. The rail line from Kapustin Yar to Vladimirovka divides the area in two. Along the road from the rail line to the airfield are as many as 15 new buildings.

A new airfield is under construction 2 nm east-northeast of the main runway. The runway is being surfaced, with 12,000 feet completed, but its ultimate length cannot be determined. No other changes were noted.

25X1D The complex was 100 percent cloud covered in []

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REFERENCES

PHOTOGRAPHY

	<u>Mission</u>	<u>Date</u>	<u>Pass</u>	<u>Camera</u>	<u>Frames</u>	<u>Classification</u>
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